Line Protection Checklist

PRODUCT INFORMATION

Relay Model No. _____

Relay Serial No. _____

Relay ID No. _____

Terminal ID No. _____

APPLICATION REVIEW BEFORE COMMISSIONING

Primary protection functions: ***Check***

Basic Principle of operation described ..... ❑
(POTT, DCB, Step-Distance, Differential, Feeder, etc.)—reference separate document

Distance Protection applied ..... ❑
(How many zones, purpose of each described)—reference separate document

Overcurrent Protection applied ..... ❑
(How many levels, purpose of each described)—reference separate document

Backup described ..... ❑
(If this scheme fails)—may be on separate document

Other protection functions:

Undervoltage applied? ..... Yes/No

Underfrequency applied? ..... Yes/No

Load encroachment applied? ..... Yes/No

Line thermal applied? ..... Yes/No

Power swing block/trip applied? ..... Yes/No

Loss-of-potential enabled? ..... Yes/No

Control functions:

Autoreclosing applied (internal or external to relay) ..... ❑
(scheme described)—reference separate document

Synchronism-Check/Voltage Checks ..... ❑
(scheme described)—reference separate document

Breaker Failure applied (internal or external to relay) ..... ❑
(scheme described)—reference separate document

Breaker Monitor enabled and set ..... ❑

Logic:

SELogic® control equations design tested and simulated? ..... ❑

BEFORE COMMISSIONING

Physical:

Properly mounted ..... ❑

Clean ..... ❑

Undamaged ..... ❑

Testing correct relay ..... ❑
(visibly verified—look under/around panel as needed

Electrical:

Case grounded ..... ❑

Connections tight ..... ❑

Wiring orderly:

- Labels visible/legible ..... ❑
- No broken strands/wires ..... ❑
- Neat, clearances maintained ..... ❑

Test switches:

CT test switches open (CT shorted) ..... ❑

PT test switches open ..... ❑

TRIP output test switches open ..... ❑

Breaker failure (external) test switches open ..... ❑

DC power test switches closed/relay powered up ..... ❑

Relay status:

Enable LED on ..... ❑

Push target reset—all LEDs illuminate ..... ❑

No warnings or failures on **STATUS** command ..... ❑

Jumpers:

Password protection enabled ..... Yes/No

OPEN/CLOSE command enabled ..... Yes/No

_____ ..... Yes/No

COMMISSIONING

Functional tests described ..... ❑
DC supply voltage does not exceed relay rating ..... ❑
Test voltages and currents do not exceed relay continuous ratings ..... ❑
Relay operates in expected time (details) ..... ❑
Relay correctly does not operate for out of section or external faults (details) ..... ❑

Settings:

Correct settings on correct relay ..... ❑
Settings saved/captured ..... ❑

Protection communications:

Relay connected to correct pilot channel ..... ❑
Channel functioning correctly ..... ❑

Auxiliary power (source voltage):

Battery source is correct and in good condition ..... ❑
Battery monitor enabled ..... ❑

Information security:

Passwords enabled (check jumper) ..... ❑
Passwords changed and documented ..... ❑
Level 1_____ Level 2_____
Appropriate people notified of password change ..... ❑
Communications channel security requirements described ..... ❑

Communications:

Remote communications commissioned (SEL-2030, etc.) ..... ❑

Date/Time/Reports:

Synchronized date/time input ..... ❑
Date and time correct ..... ❑
Relay HISTORY/SER buffers cleared (e.g., **HIS C**) ..... ❑

Alarms:

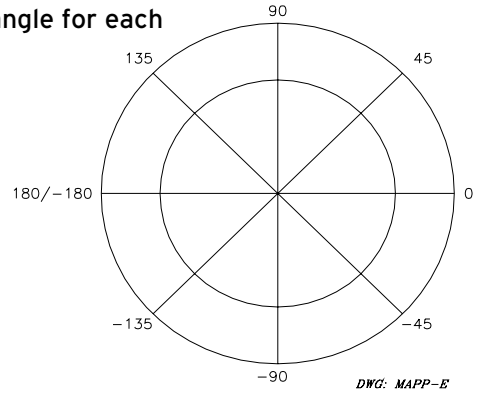
Alarm contact connected to remote monitor ..... ❑
Alarm contact connected to local monitor ..... ❑

AFTER FUNCTIONAL TESTS BEFORE RELAY PLACED IN SERVICE

Voltages from correct PT/PT switches closed ..... ❑
Current from correct CT/CT test switches closed ..... ❑
Breaker aux. contacts from correct breaker(s) ..... ❑
Polarities, phase rotation correct ..... ❑
Plot phasors from **METER** command or event report ..... ❑

Enter magnitude and phase angle for each measured quantity (or use SEL-5601 software):

IA: _____
IB: _____
IC: _____
VA: _____
VB: _____
VC: _____



Nontrip I/O test switches closed ..... ❑
No trips asserted (targets reset, no voltage on test switch) (unlatch all trips) ..... ❑
Trip circuit to correct breaker/test switch closed ..... ❑
Breaker failure trip to correct lockout/test switch closed ..... ❑
Polarity of V, I ..... ❑
Nominal unbalance (I2/I1 < 5%, V2/V1 < 5%) ..... ❑
52a contact(s) closed ..... ❑

ENGINEERING SIGN OFF

Designer: _____
Setter: _____
Tester: _____
Checker: _____